Boucher, Aimee

From: Fagel, Jason R (DEC) <jason.fagel@dec.ny.gov>
Sent: Friday, August 03, 2018 2:50 PM
To: Boucher, Aimee
Cc: Sarah Rickard; Karen Stainbrook
Subject: FW: Draft 2018 303(d) questions - Brooktrout Lake

Aimee,

Apologies. I emailed my responses to your questions from 7/24, a few minutes too early. Staff in our TMDL section just got back to me with additional points on Brooktrout Lake. See below.

I don't think anything below contradicts what I sent earlier, just gives some additional background and support that my answer lacked.

Sorry for the confusion.

Jason R. Fagel

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From: Stainbrook, Karen M (DEC)
Sent: Friday, August 03, 2018 2:19 PM
To: Rickard, Sarah E (DEC) <sarah.rickard@dec.ny.gov>; Fagel, Jason R (DEC) <jason.fagel@dec.ny.gov>
Cc: Kosinski, Kenneth A (DEC) <kenneth.kosinski@dec.ny.gov>
Subject: RE: Draft 2018 303(d) questions - Brooktrout Lake

1. **Brooktrout Lake** – Waters located in the FP are protected under Article XIV of the NYS Constitution and are to be maintained as "forever wild." What is the narrative criteria that DEC is interpreting to maintain the FP "forever wild" designation? Also, is the lake meeting it's "forever wild" designation? If so, how?

   The EPA approved TMDL for Acid Impaired Lakes in the Adirondack Park stated that the "forever wild" definition in the NYS Constitution "The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands" is reasonably and generally accepted to be interpreted to mean to maintain waters within the forest preserve in their natural condition. This level of protection is consistent with the protection of high quality waters which constitute Outstanding National Resource Waters under 40 CFR 131.12(a)(3) (NYSDEC, 2014).

   Although, pH is scientifically derived standard based on the support of aquatic life, it might not be a realistic standard for all waters of the Adirondacks, where natural limitations such as

limited acid neutralizing capacity (ANC), soil characteristics, geology and hydrology and other considerations suggest some of these waters may have never attained a pH of 6.5. Therefore, acid neutralizing capacity (ANC) was identified as the numeric water quality target in the EPA approved TMDL for Acid Impaired Lakes in the Adirondack Park to provide the appropriate level of aquatic life protection for NYS Forest Preserve lakes categorized as "forever wild". ANC (or alkalinity) can be directly linked to both underlying water chemistry, e.g., pH and Al, and to biological impairment, specifically fish mortality, reproduction, and the number of fish species present in a water body (USEPA, 2011).

Although, the EPA approved TMDL does not include Brooktrout Lake specifically; the lake is nonetheless within the Adirondack Park (Forest Preserve) and is categorized as "forever wild". Also, the EPA approved TMDL established ANC as the numeric water quality endpoint as an interpretation of the narrative language for "forever wild" lakes to protect freshwater aquatic life within the NYS Forest Preserve. The target is also used to determine whether recovery has been attained and that the appropriate uses are protected.

Brooktrout Lake is exceeding the EPA approved TMDL water quality target (ANC > 11 ueq/L), the fish population is recovering in the lake and natural reproduction is occurring. Based on this information NYS justifies the use of the ANC data to delist Brooktrout Lake. This would be the same criteria that would be used to delist any other lake within the Adirondack Park designated as "forever wild".

USEPA, 2011. Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards
for Oxides of Nitrogen and Oxides of Sulfur EPA-452/R-11-005a.

From: Rickard, Sarah E (DEC)
Sent: Monday, July 30, 2018 9:26 AM
To: Fagel, Jason R (DEC) <jason.fagel@dec.ny.gov>; Stainbrook, Karen M (DEC) <karen.stainbrook@dec.ny.gov>
Subject: RE: Draft 2018 303(d) questions - Brooktrout Lake

Looks good to me. I defer to Karen re any TMDL questions. But, don't forget to copy Doc Brown to give him a heads up.

From: Fagel, Jason R (DEC)
Sent: Thursday, July 26, 2018 12:19 PM
To: Rickard, Sarah E (DEC) <sarah.rickard@dec.ny.gov>; Stainbrook, Karen M (DEC) <karen.stainbrook@dec.ny.gov>
Subject: RE: Draft 2018 303(d) questions - Brooktrout Lake

Sarah/Karen,

See my responses to Aimee's question below in red text. Notes and less than serious responses in blue text.

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From: Boucher, Aimee [mailto:Boucher.Aimee@epa.gov]
Sent: Tuesday, July 24, 2018 9:46 AM
To: Fagel, Jason R (DEC) <jason.fagel@dec.ny.gov>; Rickard, Sarah E (DEC) <sarah.rickard@dec.ny.gov>
Subject: Draft 2018 303(d) questions

Hi Jason,

I hope you had a relaxing and enjoyable vacation! Thank you for compiling the data and information you've sent me during the NY 2018 303(d) public comment period. I have some follow-up questions about that data as well as some additional delisting concerns.

1. **Brooktrout Lake** – Waters located in the FP are protected under Article XIV of the NYS Constitution and are to be maintained as "forever wild." What is the narrative criteria that DEC is interpreting to maintain the FP "forever wild" designation? Also, is the lake meeting it's "forever wild" designation? If so, how?
   NYSDEC does not have any narrative criteria to define what "forever wild" is or what it translates to in an assessment. Since we know that in the 1980's the pH in Brooktrout Lake was significantly lower and no fish were present, we will concede we have failed at meeting the 'forever' aspect of the classification. It is also known that low pH in these lakes is not entirely due to anthropogenic acidity of rain water, and the geology of the watersheds in most of the Adirondack acid lakes plays a significant role in their pH depression. The 2014 TMDL attempted to model what the pre-industrial pH was of these waterbodies and compare it to paleolimnologically inferred pH. The overall agreement was good for most waterbodies, but the model hindcast results for Brooktrout Lake were not in agreement. This is consistent with other waterbody-specific shortcomings of the model that led to Brooktrout Lake being excluded from the final TMDL. So in the case of Brooktrout Lake, we do not definitively know what the 'wild' pH looked like or if it ever was above 6.5. We do know that the currently prescribed recovery metric (ANC > 11 ueq/L) is being exceeded in Brooktrout Lake, despite the model prediction that this number was not attainable there. We also know that the fish population is recovering in the lake and natural reproduction is occurring there.

   EPA should be cautious in pressing for recovery metrics beyond those prescribed in the TMDL, as doing so effectively invalidates the TMDL and any work performed towards achieving its goals. All the waters in the 2014 Acid Lakes TMDL are Forest Preserve waters subject to "forever wild" criteria. In approving the TMDL, EPA has agreed that the ANC recovery metric is sufficient to meet the applicable Forest Preserve WQS.

   NYSDEC suggests that EPA R2 contact Doc Brown for use of the proper sampling vehicle to determine the "forever wild" pH conditions in Brooktrout Lake. Although trunk space in the

sampling vehicle may be limited due to the flux capacitor, EPA should bring along their own pH meter as the equipment available on-site may not be adequate for accurate or precise pH measurement. Provided EPA can harness the proper lightning storm to return from the sampling trip, NYSDEC will then entertain a serious discussion on whether or not a pH of 5.9 is an adequate indicator of recovery for this waterbody.

On a more serious note, do we put ourselves in any jeopardy by pressing EPA on the validity of the TMDL if they are questioning how ANC > 11 ueq/L equates with the full pH recovery of FP waters?

I have Scott K looking for Chandler's files on the paleolimnologically inferred pre-industrial pH.

2. **Muscoot River, Lower and minor tribs (1302-0049)** – As you mentioned, the NYCDEP Muscoot data that the delisting is based on, are only from the Hallock Mill Brook section of the river. Also, you mentioned the reason for not including the entire Muscoot data set was because Hallock Mill Brook and the failing WWTP was the driver for listing. It appears the standard for DO is not met in other segments of the dataset. If only part of Muscoot is meeting standards, how can you delist the waterbody?
3. **Schroon Lake for PCBs** – delisted due to "PCB consumption advisory has been lifted for this waterbody." There are two applicable WQS that can be applied to waters impaired for PCBs. Either the NYS numeric criterion, or "A less stringent guidance value for an individual substance [in this case, PCBs] may be substituted for this standard if so determined by the Commissioner of the New York State Department of Health." What is the DOH substituted value used to lift this advisory and how that value is protective of the designated use?
4. **Nissequogue River, Lower (1702-0025)** – proposed removal from Category 4c due to "listed in error." The 2010 WI/PWL fact sheet identifies the Verification Status as "4(Source Identified, Strategy Needed). The Verification Status in the 2016 WI/PWL is removed. Do you know what happened here? Would this be something that can be traced in past 305(b) reports? I would be hesitant to remove a water that at one time was designated as impaired without evidence demonstrating that it's not impaired. If this were on the 303(d) list, it cannot be removed "soley on passage of time and an inability to reassess the waterbody." (NYSDEC Listing Methodology, March 2017).
5. **Peach Lake (1302-0004); Minor Tribs to Croton Falls Reservoir (1302-0001)** – Prior to the 2016 partial approval/partial disapproval, Peach Lake, impaired for pathogens, and Minor Tribs to Croton Falls Reservoir, impaired for Oxygen Demand and Phosphorus, were designated as IR Category 4b Waters. Through final EPA action on July 10, 2018, these waters are designated as IR Category 5 waters and should be on the 2018 303(d) list. They are not on the draft 2018 list, rather erroneously designated as IR Category 4a waters on the accompanying "List of Integrated Report (IR) Category 4a/b/c Waters." Why are these waters placed in 4a when there is not a TMDL developed?
6. **Gowanus Canal (1701-0011) for Oxygen Demand** – Appears as an IR Category 4b without a 4b demonstration. In order for this water to remain off the 303(d) list, NYSDEC must provide an adequate 4b demonstration or provide good cause (see 40 CFR Part 130.7(b)(6)(iv)) not to list. Otherwise, it must go on the 303(d) list as a Category 5 water.
7. **Spring Creek (1701-0361) for Pathogens and Oxygen Demand; Paerdegat Basin(1701-0363) for Oxygen Demand** – These waters were partially approved by EPA as Part 3c of the 2016 303(d) list. They are now on the "List of Integrated Report (IR) Category 4a/b/c Waters" as IR Category 4b waters without an adequate 4b demonstration. In order for this water to remain off the 303(d) list, NYSDEC must provide an adequate 4b demonstration or provide good cause (see 40 CFR Part 130.7(b)(6)(iv)) not to list. Otherwise, it must go on the 303(d) list as a Category 5 water.

Please feel free to give me a call if you have any questions. Thanks!!
Aimee

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